

What is claimed is:

1. A permanent magnet motor comprising a rotor equipped with a rotor core which is a generally pillar-shaped stack of steel plates, permanent-magnet-holding slots formed in those parts of the rotor core which correspond to sides of an approximately regular polygon centered on an axis of the rotor core, permanent magnets inserted in the respective permanent-magnet-holding slots, and a plurality of radially elongated slits arranged apart from each other along each of the permanent-magnet-holding slots on an outer core outside the permanent-magnet-holding slots, characterized in that

at a radially outer end, the slits are spaced approximately equally while at a radially inner end, spacing between the slits is reduced with increasing distance from a center of each permanent magnet, with the spacing at the center being the largest.

2. The permanent magnet motor according to claim 1, characterized in that if sides of the permanent magnets are made to correspond to a base of a sine wave, the spacing between the slits at the radially inner end is proportional to height of the sine wave.

3. The permanent magnet motor according to claim 2, characterized in that the rotor has  $2n$  magnetic poles and a stator has  $3n$  teeth each of which has a conductor wound in a concentrated manner, where  $n$  is a positive integer; and sides of the permanent magnets correspond to the base of the sine wave when contracted toward the center.

4. The permanent magnet motor according to claim 1, characterized in that core width between a radially outer end of the slits and an outer circumference of the rotor core is larger at the center of the permanent magnets than at both ends.

5. The permanent magnet motor according to claim 1,

characterized in that core width between a radially outer end of the permanent-magnet-holding slots and a radially inner end of the slits as well as core width between a radially outer end of the slits and an outer circumference of the rotor core are 1 to 3 times thickness of the steel plates.

6. The permanent magnet motor according to claim 1, characterized in that at least four slits are arranged along each of the permanent magnet slots.